

What is claimed is:

1. A container holder comprising:

a main arm having container receiving parts formed on two lateral ends thereof,

5 first driving means connected to the main arm for moving the main arm in and out of a compartment,

trays linked with the main arm and moving in and out of the compartment together with the main arm, said trays being provided independently corresponding to each of said receiving parts,

10 adjusting members provided independently corresponding to the receiving parts, respectively, each of said adjusting members holding a container placed on said tray together with the receiving part, and

15 second driving means connected to the adjusting members for moving said adjusting members to move toward the container placed on the tray.

2. A container holder according to claim 1, further comprising sub arms supported to be able to sway on the main arm and swaying  
20 together with movements of the adjusting members.

3. A container holder according to claim 2, further comprising tray switches operably connected to the trays, each tray switch being operated by a movement of the tray when the container is  
25 placed on the tray, and control means connected to the second driving means for driving the second driving means to close each of the sub arms when one of the tray switches is turned on and to release each of the sub arms when the one of the tray switches is turned off.

30 4. A container holder according to claim 2, further comprising forcing means for urging each of the sub arms toward a closing

direction, said sub arm swaying toward a direction opposite to a force of said forcing means when the sub arm is in a closing state.

5 5. A container holder according to claim 3, wherein said control means returns the adjusting member for a predetermined amount when said adjusting member is closed and meets the container.

10 6. A container holder according to claim 3, wherein said control means operates the main arm such that the main arm is housed when torque above a predetermined value is applied to the first driving means during a time until said main arm moves toward a predetermined position inside the compartment.

15 7. A container holder according to claim 3, wherein said control means operates such that the main arm stops when torque above a predetermined value is applied to the first driving means during a time until the main arm moves toward a predetermined position inside the compartment.

20

8. A container holder according to claim 3, wherein said main arm is immovable when said tray switch is in a turned-on state.

25 9. A container holder according to claim 1, wherein said first driving means comprises a first fixed gear, a first planetary gear fixed to the main arm and revolving around the first fixed gear, and a first motor for providing a rotational force to the first planetary gear; and said second driving means comprises a second fixed gear, a second planetary gear fixed to the adjusting  
30 member and revolving around the second gear fixed to the main arm, said second planetary gear being able to rotate integrally with the main arm, and a second motor for providing a rotational

force to the second planetary gear.

10. A container holder, comprising:

a main arm having a container receiving part thereon,

5 a holding member for holding a container together with the receiving part,

first driving means connected to the holding member for moving the holding member toward the container,

10 sensing means for contactlessly sensing the container placed between the receiving part and the holding member, and

control means connected to the first driving means for driving the first driving means when it is sensed by the sensing means that the container is placed between the receiving part and the holding member.

15

11. A container holder according to claim 10, wherein said sensing means is a photoelectric sensor for projecting light toward the container.

20

12. A container holder according to claim 10, wherein said sensing means is an ultrasonic sensor for emitting ultrasonic waves toward the container.

25

13. A container holder according to claim 10, further comprising second driving means connected to the main arm to move the main arm in and out of a compartment.

30

14. A container holder according to claim 13, wherein said control means operates such that the main arm is housed when torque above a predetermined value is applied to the second driving means during a time until the main arm moves to a predetermined position inside the compartment.

15. A container holder according to claim 10, further comprising a sub arm supported on the main arm so as to be able to sway on the main arm together with a movement of the holding member.

5

16. A container holder according to claim 15, further comprising forcing means for urging the sub arm toward a closed direction, said sub arm being able to sway toward a direction opposite to a force of the forcing means when the sub arm is in a closed state.

10